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GEO. J. Ball
INC.
WEST CHICAGO
ILLINOIS

62.23

BALL
Chrysanthemums
CARNATIONS
1944

NOV 5 1943

U. S. Department of Agriculture

GEO. J. BALL INC. WEST CHICAGO ILL.

To All Our Customers of 1943

In an effort to supply our old customers with Mum cuttings for 1944, we have had to make some changes in our methods of filling orders. War production has played havoc with the operation of all greenhouses. Owing to labor scarcity we will only be able to root 2/3 of the number of cuttings we did last year.

So in order to treat everyone of our customers alike, we can fill 1944 orders with only 2/3 of the quantity purchased in 1943. We can, however, supply the remaining 1/3 in unrooted cuttings. The cost of unrooted cuttings will be \$10.00 per M less than our rooted cutting price listed in this catalog.

Rooted cuttings will be placed in the sand immediately upon receipt of your order. Unrooted cuttings will be sent when wanted. The rooted cuttings will be ready for shipment in three or four weeks after the order is received.

We have raised our minimum quantity that can be ordered of any variety from 25 cuttings to 50 cuttings. Under no circumstance will any order be accepted for less than 50 of a kind or multiples thereof.

No orders can be filled immediately. We will only root your cuttings after the order is received. We can, if desired, ship your quota of unrooted cuttings at once.

PLEASE NOTE

It is our policy to supply your mum cutting needs with such quality and at a price that it will be profitable for you to depend on us for them. Accordingly, price changes EITHER WAY will be made as conditions justify.

To fill our customers orders in the most efficient manner we have discontinued, for the duration, all varieties of Exhibition, Feathery and the Hardy or Garden Type Mums.

GEO. J. BALL, Inc.

SPECIAL NOTICE

Any addition to your original order that may be placed later must be considered as a separate order; each order must be priced according to quantity ordered each time.

(SUBSTITUTIONS) The number of varieties of Standards and Pom Poms is less than last season. If you order a kind not listed, we will substitute a new and better one, unless you definitely state no substitutions.

INSTRUCTIONS FOR ORDERING

NOTE: When arrangements are made to ship cuttings on open account, it is understood they are sold on strictly 60 days net basis. The close margin under which these cuttings are sold, makes these terms necessary.

Special Discounts for Large Orders: The following discounts, for quantities given, will apply on orders placed **at one time** for the quantity on which discount is taken.

5% discount for an order of 10,000
7 1/2% discount for an order of 25,000
10% discount for an order of 50,000
15% discount for an order of 100,000

VERY IMPORTANT In order to produce cuttings at present prices, the business is run on a very close margin. For this reason we *cannot break bundles* of 50 cuttings. Please note, therefore, following rule will apply on all orders:

If order totals less than 1000, 50 of a variety will be billed at the 100 rate.

When more than 50 of a variety is ordered quantity **MUST BE IN MULTIPLES OF 50**, (meaning 50, 100 or 150). 250 of *one* variety will be billed at the 1000 rate.

If order is wanted C.O.D. be sure to enclose check for *at least 50% of the amount*.

SHIPPING INFORMATION

All our stock is propagated at Barberton, Ohio, from where it is shipped by Express COLLECT. All orders are inspected and accepted by the Express Company. Therefore, if there is any damage enroute from being broken or frozen, call your express agent to inspect the same, marking on express receipt the condition of the package and amount of damage, etc. You must file claim, as our responsibility ceases when Express Co. accepts shipment.

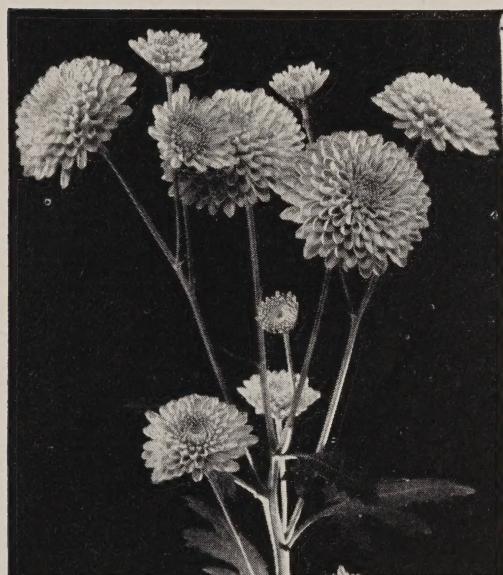
THE 1944 NOVELTIES

The following new varieties are only from responsible growers. Such growers will not release a new one that isn't an improvement over an existing kind. We realize that not all new ones make good. This might sometimes be due to a variety not behaving everywhere as it does with the originator, but more often the grower's cultural methods are faulty. An example is the 50 year old variety Bonnaffon that many veteran growers have discarded and taken up numerous times. All the following are improvements, so better try out such types or colors in which you are most interested.

Prices on Cuttings of all Novelties listed on this and following page \$15.00 per 100—\$125.00 per 1000

YODER BROTHERS INTRODUCTIONS

NO ORDERS FOR LESS THAN 50 CUTTINGS OF A VARIETY ACCEPTED



MINUET

A beautifully formed, clear pink pompon of medium size that blooms for Thanksgiving. It is of extremely easy culture, the habit being vigorous and free, with dark glossy foliage, strong stems and upright sprays. This seedling bunches, keeps, and ships unusually well. It is a reliable producer and responds well under a wide diversity of cultures. It blooms at a period when a lively pink of top quality is in great demand.

Price for Rooted Cuttings: \$15.00 per 100,
\$125.00 per 1000.



SYLVANNA

A medium size orange bronze single with outstanding brilliance that does not fade or go dull even when flower is past maturity. Its blooming date is November 10. The flower is of good substance and has excellent keeping qualities. This is a variety of free growth habit, and is not at all sensitive to cultural environment. It produces satisfactorily on either raised benches or ground beds. Its response to black cloth is excellent. A quality single that is easy to grow.

Price for Rooted Cuttings: \$15.00 per 100,
\$125.00 per 1000.



LODESTAR



REVELATION

LODESTAR

An intense lemon yellow single that blooms for Thanksgiving. This single, medium in size, has a very attractive star-like form. The substance and keeping quality improves any existing yellow single of similar flowering date. The color does not fade or lose brilliance with maturity. The small, dark green foliage is carried on rigid stems of medium size.

Lodestar should provide for Thanksgiving a much needed color in a very aristocratic form.

Price for Rooted Cuttings: \$15.00 per 100,
\$125.00 per 1000.

REVELATION

A clear white medium size pompon for early January. The flower is of good form and substance; larger and more fully double than Snow. The type of growth of this variety is truly a revelation for this late flowering season. The small hard stems are extremely rigid, with attractive dark green and healthy foliage. It is not at all sensitive to cultural environment, possessing a persistence of habit that should make it one of the most valuable pompons in existence.

All cuttings of this variety will be sold with the following restrictions: Purchaser may grow them for flower production only; propagation rights are reserved and stock must be discarded after the flowering season. Contract forms will be supplied by the originator and must be signed and returned before shipments are made.

Price for Rooted Cuttings: \$5 per 100; \$45 per 1000.

SUNNYSIDE

This seedling should mark a new epoch for pompons. The quality will thrill the most discriminating retail artist. The production and ease of culture should excite the critical eye of the grower. *Sunnyside* is a small golden yellow pompon of very hard substance, on sprays of unsurpassed rigidity. It matures November 20 to 25 to be had for Thanksgiving. Unhesitatingly we recommend *Sunnyside* as a distinct advance and a new era in the field of high quality, productive pompons.



SUNNYSIDE

YODER BROS. INTRODUCTIONS (Continued)

SUNNYSIDE (Continued)

All cuttings of this variety will be sold with the following restrictions: Purchaser may grow them for flower production only; propagation rights are reserved and stock must be discarded after the flowering season. Contract forms will be supplied by the originator and must be signed and returned before shipments are made.

Prices for Rooted Cuttings: \$5 per 100;
\$45.00 per 1000.

BRONZE GOLDSMITH

A beautifully blended orange and Brazil red sport from Goldsmith.

Price for Rooted Cuttings: \$15.00 per 100,
\$125.00 per 1000.

YELLOW ALBATROSS

A light lemon yellow sport from the well known variety Albatross.

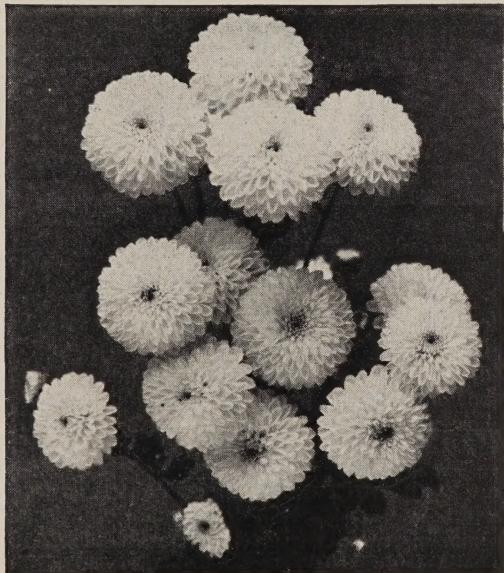
Price for Rooted Cuttings: \$15.00 per 100,
\$125.00 per 1000.

DePETRIS INTRODUCTIONS

NANCY CRAIN

Good button types are needed to supply the increasing demand for dainty and artistic work. *Nancy Crain* is a large white button which possesses perfect form and excellent substance. Has excellent growth habit producing clean and strong well flowered sprays with very high production. Matures about the 5th of November. This variety is easy to grow and should prove a favorite for early November.

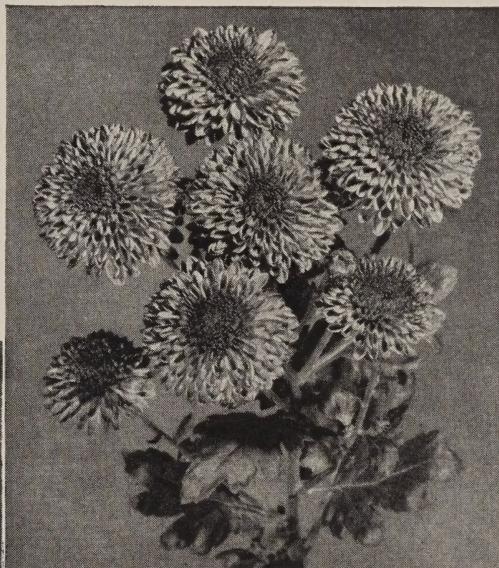
Price for Rooted Cuttings: \$15.00 per 100,
\$125.00 per 1000.



NANCY CRAIN

NEVADA

Pure white anemone suitable for growing in natural sprays. Possesses excellent substance with a compactly formed cushion. Good growth habit and production. Blooms normally the end of November into December. A desirable and



ARGO

Late large pompon with good rounded form and excellent substance. Color beautiful bronzy orange, shading to rust. A very appealing shade, which does not fade if allowed to stand on the plant. Growth habit somewhat dwarf and rigid. Seems to make its growth late in the season and should therefore not be planted late. Stem and foliage are excellent. Production is likewise excellent if planted early. Blooms normally the first week in December. *Argo* is a quality pompon with a very appealing color which sells on sight.

Price for Rooted Cuttings: \$15.00 per 100,
\$125.00 per 1000.

useful anemone producing flowers of high quality at a season when this type and color is much in demand.

Price for Rooted Cuttings: \$15.00 per 100,
\$125.00 per 1000.

INDEX

	Page		Page		Page
A		Goldsmith	7	Red Princeton	9
Adelaide	8	Good News	5	Red Rolinda	9, 10
Albatross	6	Graceland	8, 10	Red Valencia	9
Ambassador	6	Gypsy	10	Revelation	8
Anacoda	6			Rev. Bushnell	8
Apricot	9	H		Richard Mandel	10
Apricot Queen	6, 10	Hasegawa Gold	7	R. M. Calkins	5
Apricot Valencia	9	Hasegawa Pink	9	Robin Hood	8
Arcadia	8	Helen Frick	6, 11	Roddell Imp.	7, 10
Argo	9	Helios	7	Roman Bronze	8
		Hilda Bergen	6	Rosabella	6, 11
B		Honey Dew	5, 10	Rosalind	9
Beautiful Lady	9, 11			Royal Crimson	9
Betsy Ross	6	I		Royal Queen	8
Blanche	8	Imp. Tobin's L. Yel.	5		
Blazing Gold	5, 10	Imp. Yel. Chattanooga	5	S	
Bonanza DeLuxe	10	Indianapolis Bronze	6, 10	Saratoga	5
Bronze Buckingham	8	Indianapolis Pink	6, 11	Sarong	9
Bronze Bulkeley	8	Indianapolis White	6, 10	Seafoma	8
Bronze Daisy	8	Indianapolis Yellow	5, 10	Sea Gull	8
Bronze Freida	9	Irene	8, 10	Shasta	8
Bronze Goldsmith	9			Silver Ball	8
Bronze Masterpiece	8	J		Silver Sheen	6
Bronze Mistletoe	6	Jane	9	Silver Star	8
		Jemima	8	Smith's Early White	6
C		Jessie	9	Smith's Late White	6
Cambrilia	6	Jewell	9, 11	Snow	8
Cameo	8	J. W. Prince	6	Snow White	6
Capt. Cook	9			Spun Gold	7
Cardonia	5, 10	L		Sunglow	5
Carillon	9	Legal Tender	9	Sun Gold	5, 10
Carnelia	9	Leroy Zang (See Golden		Sunnyside	7
Cassandra	8	Pearson)	5	Sunray	7, 10
Catherine	9	Lillian Doty	9	Susanne Miller	7
Cavalcade	9	Little America	8, 10	Sylvanna	8
Celestra	5	Lodestar	7		
Chattanooga	6	Long Island Beauty	8	T	
Chicago Pearl	8			Thanksgiving Pink	6
Christina	10	M		The Titan	8
Christmas Cheer	7	Madelaine (See Jessie)	9	Thyra	9, 11
Christmas Gold	7	Major Bowes	6		
Chrome Emerald	9	Marie DePetris	5	U	
Citronella	5	Marketeer	6, 10	Unalga (See Gold Coin)	7
Clara Holford	8	Mary L. Hall	7	Usona	9
Cordova	8	Mason's Bronze	8	Uvalda	8
Crystal Jewell	8	Masterpiece	9		
		Mefo	6	V	
D		Meteore	5	Valencia	9
Dark Pink Jewell	9, 11	Minong	8, 10	Vera Victoria (See	
Dark Pink Norma	9	Minuet	9	Mary L. Hall)	7
Dark Pink Supreme	9	Monument	6	Vibrant	7
Dark Pink Valencia	9	Mrs. Bulkeley	9	Viking	9
December Glory—Large	6	Mrs. Hooker	9		
December Glory—Pom	8	Mrs. Kidder	5	W	
December Gold	7	Mrs. Roy	6	White Anemone	8
December White	6			W. H. Buckingham	9
Dergold	7	N		White Doty	8
Detroit News	6	Nagona	8	White Freida	8
Dorothy Turner	9	Nancy Cr.	8	White Frick	6, 10
		Natoma	8	White Jewell	8, 10
E		Navaho	8	White Mensa	8
Early October	6, 11	Nevada	8	White Mistletoe	6
Edwin Seidewitz	6	New York	8	White Norma	8
Enchantress	9	Norma	9	White Supreme	8
Europa	8	Nuggets	7, 10	White Yuletide	8
				Whittier	5
F		O			
Fez	9	Oak Leaf	6	Y	
Fire Bird	8	October Bronze	8	Yellow Albatross	5
Freida	9	October Pink	9	Yellow Ambassador	5
Friendly Call	5	Orchid Beauty	9	Yellow Arcadia	7
Friendly Rival	5	Orchid Queen	6	Yellow Beauty	10
		P		Yellow Bushnell	7
G		Pearl	8	Yellow Cordova	7
Garnet King	6	Penrod	5	Yellow Daisy	7
Garza Supreme	8	Pink Chief	6	Yellow Dot	7
Gladys Pearson	6	Pink Dot	9	Yellow Doty	7
Glitters	6, 10	Pink Mistletoe	6	Yellow Fellow	7, 10
Glow	9	Pink Pearl	9	Yellow Garza Supreme	7
Gold Coin	7	Pink Treasure Island	9	Yellow Hammer	7
Gold Imperial	9	Pixie	7	Yellow Irene	7
Gold Lode	5, 10	Pom. Dec. Glory	8	Yellow Mefo	5
Golden Glory	5, 10	Princeton	9	Yellow Monument	5
Golden Herald	7	Prosperity	9	Yellow New York	7
Golden Jane	7			Yellow Rolinda	7, 10
Golden Mistletoe	5	Q		Yellow Sea Gull	7
Golden Modena	7	Quaker Maid	6	Yellow Snow	7
Golden Mrs. Ross	5	Queen of Pinks	11	Yolanda	9
Golden Pearson	5	R		Yukon	8
Golden Spray	7	Red Daisy	8		
Golden Surprise	7	Red Melba	8, 10		

Large Flowering Commercial Varieties

In this catalog is a duplication of names as follows:

December Glory—A large mum.

December Glory—A pompon.

When this variety is ordered, kindly specify clearly which is intended.

NOTE

When variety **Gladys Pearson** is ordered, original stock will be shipped.

When **Dark Bronze Gladys Pearson** is requested, Oak Leaf will be shipped.

X—Extra good or generally accepted best varieties.

S—Indicates varieties we find most suitable for shading.

P—Indicates varieties suitable for Pot Plants.

NOTE CAREFULLY INSTRUCTIONS FOR ORDERING ON PAGE TWO

NO ORDERS FOR LESS THAN 50 CUTTINGS OF A VARIETY ACCEPTED

YELLOW

Name and Description	Height	Select	Price per	
		Bud	Matures	100 1000
XP Gold Lode. Golden yellow.....	Med.	Aug. 25	Oct. 1	\$4.00 \$35.00
XP Celestra. Bright yellow	Med.	Ter. Bud	Oct. 15	4.00 35.00
XSP Mrs. H. E. Kidder. Bright yellow.....	Med.	Aug. 25	Oct. 20	4.00 35.00
X Yellow Ambassador. Yellow. Sport from Ambassador	Med.	Ter. Bud	Oct. 23	4.00 35.00
XS Blazing Gold. Golden yellow.....	Med.	Ter. Bud	Oct. 25	4.00 35.00
XSP Sunglow. Yellow	Med.	Aug. 25	Oct. 25	4.00 35.00
Citronella. Light yellow	Short	Aug. 31	Oct. 28	4.00 35.00
X Yellow Albatross. Light lemon yellow. Incurved. Sport from Albatross.....	Med.	Ter. Bud	Oct. 28	15.00 125.00
XS Saratoga. Bright golden yellow. Incurved.....	Med.	Ter. Bud	Nov. 1	4.00 35.00
XP Golden Glory. Golden yellow.....	Short	Aug. 25	Nov. 1	4.00 35.00
XS Good News. Yellow. Sport from Detroit News.....	Med.	Aug. 30	Nov. 1	4.00 35.00
X Indianapolis Yellow. Lemon yellow. Incurved. Sport from Indianapolis Pink.....	Med.	Ter. Bud	Nov. 8	8.00 75.00
XP Cardonia. Deep rich yellow.....	Med.	Sept. 5	Nov. 10	4.00 35.00
XS Penrod. Golden yellow. Incurved.....	Med.	Ter. Bud	Nov. 10	6.00 55.00
X Whittier. Yellow	Med.	Sept. 15	Nov. 13	4.00 35.00
X Yellow Monument. Yellow. Sport from Monument	Med.	Sept. 10	Nov. 15	4.00 35.00
XP Honey Dew. Yellow	Short	Ter. Bud	Nov. 15	4.00 35.00
XS Yellow Mefo. Yellow. Sport from Mefo.....	Med.	Sept. 20	Nov. 20	4.00 35.00
Friendly Call. Buff yellow. Incurved.....	Tall	Ter. Bud	Nov. 20	4.00 35.00
XP Friendly Rival. Large golden yellow.....	Med.	Sept. 10	Nov. 20	4.00 35.00
X Marie de Petris. Yellow.....	Short	Sept. 15	Nov. 23	4.00 35.00
XS Golden Pearson. (Leroy Zang) Yellow. Sport from Gladys Pearson	Med.	Sept. 30	Nov. 25	4.00 35.00
XP Sun Gold. Yellow	Med.	Sept. 30	Nov. 25	4.00 35.00
X Improved Yellow Chattanooga. Light yellow....	Med.	Sept. 20	Nov. 25	4.00 35.00
P R. M. Calkins. Golden yellow.....	Med.	Sept. 20	Nov. 30	4.00 35.00
X Golden Mrs. Ross. Golden yellow. (Improved Nellie T. Ross.)	Tall	Ter. Bud	Dec. 3	4.00 35.00
X Golden Mistletoe. Yellow	Med.	Sept. 30	Dec. 10	4.00 35.00
X Meteore. Lemon yellow. Incurved.....	Med.	Ter. Bud	Dec. 10	6.00 50.00
X Improved Tobin's Late Yellow. Deep yellow. Sport from Tobin's Late Yellow.....	Short	Sept. 30	Dec. 15	4.00 35.00

Large Flowering Commercial Varieties (Continued)

WHITE

Name and Description	Height	Select Bud	Matures	Price per
				100 1000
Smith's Early White. White.....	Tall	Aug. 10	Oct. 5	4.00 35.00
XP Quaker Maid. White	Med.	Aug. 25	Oct. 15	4.00 35.00
XS Silver Sheen. Standard early white.....	Med.	Aug. 30	Oct. 18	4.00 35.00
XP Ambassador. Large long stemmed white.....	Med.	Ter. Bud	Oct. 23	4.00 35.00
XS Albatross. Pure white	Med.	Ter. Bud	Oct. 28	4.00 35.00
XS Snow White. White	Med.	Ter. Bud	Nov. 1	4.00 35.00
XS Betsy Ross. Finely shaped white.....	Tall	Aug. 25	Nov. 1	4.00 35.00
XS Indianapolis White. Incurved	Med.	Ter. Bud	Nov. 8	4.00 35.00
X Monument. White	Med.	Sept. 10	Nov. 15	4.00 35.00
XS Marketeer. Finest late white.....	Med.	Ter. Bud	Nov. 18	4.00 35.00
XS Mefo. White	Med.	Sept. 20	Nov. 20	4.00 35.00
P White Frick. White. Sport from Helen Frick....	Short	Sept. 10	Nov. 25	4.00 35.00
X Chattanooga. White	Med.	Sept. 20	Nov. 25	4.00 35.00
X December Glory. White	Tall	Sept. 30	Dec. 1	4.00 35.00
December White. Incurved	Med.	Ter. Bud	Dec. 5	12.00 100.00
X White Mistletoe. White	Med.	Sept. 30	Dec. 10	4.00 35.00
XP Smith's Late White. White.....	Short	Sept. 30	Dec. 15	4.00 35.00

BRONZE & RED

XS Indianola. Light bronze	Med.	Aug. 25	Oct. 10	4.00 35.00
XSP Hilda Bergen. Bronze	Med.	Aug. 25	Oct. 25	4.00 35.00
XS Cambria. Golden bronze. Incurved.....	Med.	Ter. Bud	Oct. 25	6.00 55.00
XSP Glitters. Bright bronze	Med.	Ter. Bud	Oct. 28	4.00 35.00
XSP Apricot Queen. Orange bronze	Short	Sept. 5	Nov. 1	4.00 35.00
XS Detroit News. Finest early bronze.....	Med.	Aug. 30	Nov. 1	4.00 35.00
XS Indianapolis Bronze. Buff bronze suffused with pink. Incurved	Med.	Ter. Bud	Nov. 8	4.00 35.00
XS Anaconda. Deep coppery red with golden bronze reverse. Incurved	Med.	Sept. 15	Nov. 10	8.00 75.00
XS Mrs. David F. Roy. Crimson with bronze reverse	Short	Sept. 15	Nov. 10	4.00 35.00
XP Garnet King. Deep, bright red.....	Med.	Sept. 20	Nov. 18	4.00 35.00
X Gladys Pearson. Good light bronze.....	Med.	Sept. 30	Nov. 25	4.00 35.00
X Oak Leaf. Dark bronze.....	Med.	Sept. 30	Nov. 25	4.00 35.00
X Bronze Mistletoe. Bronze	Med.	Sept. 30	Dec. 10	4.00 35.00

PINK

Early October. Light lavender. Semi-incurved	Med.	Ter. Bud	Oct. 10	12.00 100.00
XS Pink Chief. Pink	Tall	Ter. Bud	Oct. 15	4.00 35.00
P Major Ed. Bowes. Pink. Medium length stem..	Med.	Aug. 30	Oct. 20	4.00 35.00
X Rosabella. Rose pink. Incurved.....	Med.	Ter. Bud	Oct. 25	4.00 35.00
XSP J. W. Prince. (Improved Chieftain) Light pink.	Short	Aug. 30	Nov. 5	4.00 35.00
XS Indianapolis Pink. Excellent light lavender. Darker reverse	Med.	Ter. Bud	Nov. 8	4.00 35.00
S Orchid Queen. Orchid pink.....	Med.	Ter. Bud	Nov. 12	4.00 35.00
XP Thanksgiving Pink. Dark pink.....	Short	Sept. 15	Nov. 23	4.00 35.00
XP Helen Frick. Pink.....	Short	Sept. 10	Nov. 25	4.00 35.00
X Edwin Seidewitz. Bright pink.....	Tall	Sept. 15	Nov. 30	4.00 35.00
X Pink Mistletoe. Pink	Med.	Sept. 30	Dec. 10	4.00 35.00

Pompons, Single and Anemone Varieties

Types are abbreviated as follows: Pomp.—Pompon; Dec.—Decorative; Sgl.—Single; Anem.—Anemone.

Size of flower is indicated by S.—Small; Int.—Intermediate; L.—Large.

X—Extra good or generally accepted best varieties.

S—Indicates varieties we find most suitable for shading.

P—Indicates varieties suitable for Pot Plants.

D—Indicates smaller flowered varieties most suitable for growing as disbudded pompons.

NOTE CAREFULLY INSTRUCTIONS FOR ORDERING ON PAGE TWO

NO ORDERS FOR LESS THAN 50 CUTTINGS OF A VARIETY ACCEPTED

YELLOW

Name and Description	Height	Select Bud	Matures	Price per	
				100	1000
XS Yellow Irene. Light lemon yellow. Sport from Irene	Short	S. Pomp.	Oct. 18	4.00	35.00
XSP Rodell Improved. Yellow. Sport from Rodell....	Short	Int. Pomp.	Oct. 20	4.00	35.00
XS Yellow Hammer. Golden yellow.....	Med.	Int. Pomp.	Oct. 20	12.00	100.00
XS Golden Spray. Yellow.....	Med.	Int. Pomp.	Oct. 23	4.00	35.00
XSPD Golden Herald. Large extra deep golden yellow	Med.	L. Dec.	Oct. 25	4.00	35.00
XS Yellow Dot. (Jablonsky) Yellow; reddish center	Med.	Int. Pomp.	Oct. 25	4.00	35.00
XS Yellow Arcadia. Pernet yellow.....	Med.	Int. Pomp.	Oct. 28	4.00	35.00
XS Yellow Daisy. Deep lemon yellow.....	Med.	Int. Sgl.	Nov. 1	4.00	35.00
XSD Mary Lennon Hall. Clear rich yellow.....	Tall	Int. Pomp.	Nov. 1	4.00	35.00
XD Yellow Sea Gull. Yellow. Sport from Sea Gull	Tall	Int. Pomp.	Nov. 1	4.00	35.00
D Yellow Doty. Yellow.....	Med.	L. Pomp.	Nov. 1	4.00	35.00
XSP Nuggets. Best early yellow.....	Short	S. Pomp.	Nov. 5	4.00	35.00
XS Yellow Bushnell. Pernet yellow.....	Tall	Int. Pomp.	Nov. 8	4.00	35.00
X Derigold. Lemon yellow.....	Med.	Int. Pomp.	Nov. 10	4.00	35.00
XSD Helios. Deep yellow.....	Med.	L. Anem.	Nov. 10	4.00	35.00
Pixie. Deep golden Yellow	Med.	S. Pomp.	Nov. 10	8.00	75.00
XS Yellow New York. Yellow.....	Med.	S. Pomp.	Nov. 13	4.00	35.00
XSP Yellow Fellow. Yellow.....	Med.	Int. Dec.	Nov. 15	4.00	35.00
X Sunray. Yellow	Med.	Int. Anem.	Nov. 15	4.00	35.00
XSD Susanne Miller. Buff yellow.....	Tall	L. Anem.	Nov. 18	4.00	35.00
Golden Surprise. Sulphur yellow shading to golden yellow	Med.	Int. Pomp.	Nov. 20	8.00	75.00
X Hasegawa Gold. Large golden yellow.....	Med.	Int. Pomp.	Nov. 23	4.00	35.00
XPD Yellow Rolinda. Light buff yellow.....	Med.	Int. Anem.	Nov. 23	4.00	35.00
Sunnyside. Golden yellow	Med.	Int. Pomp.	Nov. 23	5.00	45.00
Lodestar. Golden Yellow	Med.	Int. Sgl.	Nov. 25	15.00	125.00
XD Goldsmith. Golden yellow.....	Med.	Int. Dec.	Nov. 25	4.00	35.00
X Christmas Gold. Bright yellow.....	Med.	S. Pomp.	Nov. 28	4.00	35.00
Golden Jane. Brilliant golden yellow. Sport from Jane	Med.	L. Sgl.	Nov. 30	8.00	75.00
X Yellow Cordova. Yellow. Sport from Cordova..	Med.	Int. Dec.	Nov. 30	4.00	35.00
XD Gold Coin. (Unalga) Yellow.....	Med.	Int. Pomp.	Dec. 1	4.00	35.00
X Golden Modena. Deep golden yellow. Sport from Modena	Med.	Int. Pomp.	Dec. 5	4.00	35.00
X December Gold. Deep golden yellow.....	Med.	Int. Dec.	Dec. 15	4.00	35.00
X Christmas Cheer. Deep yellow.....	Med.	Int. Pomp.	Dec. 15	4.00	35.00
Spun Gold. Deep lemon Yellow	Med.	Int. Dec.	Dec. 15	8.00	75.00
X Yellow Garza Supreme. Yellow.....	Short	Int. Anem.	Dec. 15	4.00	35.00
X Vibrant. Deep yellow.....	Med.	Int. Dec.	Dec. 20	4.00	35.00
X Yellow Snow. Deep lemon yellow.....	Med.	Int. Pomp.	Dec. 30	5.00	45.00

Pompons, Single and Anemone Varieties (Continued)

WHITE

Name and Description	Height	Select Bud	Matures	Price per	
				100	1000
Uvalda. Creamy white.....	Med.	Int. Pomp.	Oct. 10	4.00	35.00
XSP White Jewell. White suffused with pink.....	Short	S. Pomp.	Oct. 15	4.00	35.00
XSD Silver Ball. White.....	Med.	L. Pomp.	Oct. 15	4.00	35.00
XSP Irene. White	Short	S. Pomp.	Oct. 18	4.00	35.00
XS Minong. White	Med.	S. Pomp.	Oct. 20	4.00	35.00
XS Arcardia. Finest pure white.....	Med.	Int. Pomp.	Oct. 28	4.00	35.00
XPD Graceland. White, yellow center.....	Med.	Int. Anem.	Oct. 28	4.00	35.00
XSD Sea Gull. White	Tall	Int. Pomp.	Nov. 1	4.00	35.00
XSD White Doty. White.....	Med.	L. Pomp.	Nov. 1	4.00	35.00
XS Blanche	Med.	Int. Anem.	Nov. 1	4.00	35.00
XD White Anemone. White.....	Tall	Int. Anem.	Nov. 5	4.00	35.00
Nancy Crain.	Med.	S. Pomp.	Nov. 5	15.00	125.00
XS Rev. Horace Bushnell. White.....	Tall	Int. Pomp.	Nov. 8	4.00	35.00
XSD Shasta. White	Med.	Int. Anem.	Nov. 8	4.00	35.00
XS Crystal Jewell. White.....	Tall	S. Pomp.	Nov. 8	4.00	35.00
XSD White Mensa. Ivory white.....	Med.	Int. Sgl.	Nov. 10	4.00	35.00
XSPD Little America. Snow white.....	Med.	Int. Anem.	Nov. 10	4.00	35.00
XS Nagona. Ivory White.....	Med.	Int. Sgl.	Nov. 10	4.00	35.00
X Chicago Pearl. Finest clear white.....	Med.	Int. Pomp.	Nov. 15	4.00	35.00
XSD White Freida. White with yellow cushion.....	Med.	L. Anem.	Nov. 15	4.00	35.00
XPD White Norma. White suffused with pink.....	Tall	L. Anem.	Nov. 18	4.00	35.00
Nevada. White with chartreuse green cushion.....	Med.	Int. Anem.	Nov. 20	15.00	125.00
Long Island Beauty. White with yellow cushion	Med.	L. Anem.	Nov. 20	4.00	35.00
X Pearl. White	Tall	Int. Pomp.	Nov. 20	4.00	35.00
Seafoam.	Med.	Int. Pomp.	Nov. 20	8.00	75.00
XPD White Yuletide	Short	Int. Pomp.	Nov. 28	4.00	35.00
X Cordova. White	Med.	Int. Dec.	Nov. 30	4.00	35.00
Royal Queen. White.....	Med.	Int. Pomp.	Dec. 5	4.00	35.00
X Cameo. Ivory white.....	Med.	Int. Pomp.	Dec. 5	5.00	45.00
X Silver Star. White.....	Tall	Int. Pomp.	Dec. 10	4.00	35.00
X Yukon.	Tall	Int. Sgl.	Dec. 10	4.00	35.00
XD White Supreme. White suffused with pink.....	Med.	L. Anem.	Dec. 10	4.00	35.00
X December Glory. (Pompon) White	Med.	Int. Dec.	Dec. 15	4.00	35.00
X Garza Supreme.	Short	Int. Anem.	Dec. 15	4.00	35.00
X Snow. Ivory white.....	Med.	Int. Pomp.	Dec. 30	4.00	35.00
Revelation.	Med.	Int. Pomp.	Jan. 5	5.00	45.00

BRONZE & RED

XS Roman Bronze. Bronze. Sport from Capt. Cook	Tall	Int. Pomp.	Oct. 20	4.00	35.00
XS Adelaide. Mahogany	Med.	S. Pomp.	Oct. 23	4.00	35.00
XSD Jemima. Bronze	Med.	Int. Pomp.	Oct. 23	4.00	35.00
X Natoma. Flame scarlet.....	Short	Int. Dec.	Oct. 25	4.00	35.00
XS Firebird. Red bronze.....	Med.	Int. Dec.	Oct. 25	4.00	35.00
X October Bronze. Light bronze.....	Med.	Int. Sgl.	Oct. 28	4.00	35.00
X Bronze Daisy. Light bronze.....	Med.	Int. Sgl.	Nov. 1	4.00	35.00
XP Bronze Buckingham. Bronze.....	Short	Int. Sgl.	Nov. 3	4.00	35.00
XS Robin Hood. Dark red.....	Med.	S. Pomp.	Nov. 5	4.00	35.00
Navaho. Deep crimson.....	Med.	Int. Pomp.	Nov. 5	8.00	75.00
XS Red Daisy. Deep red.....	Med.	Int. Sgl.	Nov. 5	4.00	35.00
X Bronze Bulkeley. Bronze.....	Tall	Int. Pomp.	Nov. 8	4.00	35.00
Sylvanna. Bitter Sweet orange.....	Med.	Int. Sgl.	Nov. 10	15.00	125.00
Cassandra. Orange bronze	Med.	Int. Pomp.	Nov. 10	8.00	75.00
XD Mason's Bronze. Burnt orange.....	Short	L. Sgl.	Nov. 10	4.00	35.00
XSD Europa. Cardinal red.....	Short	L. Sgl.	Nov. 10	6.00	55.00
XSD Clara Holford. Deep red.....	Med.	L. Sgl.	Nov. 10	4.00	35.00
XD The Titan. Scarlet crimson.....	Med.	L. Anem.	Nov. 10	4.00	35.00
XPD Red Melba. Red.....	Short	L. Sgl.	Nov. 10	4.00	35.00
XS New York. Bronze.....	Med.	S. Pomp.	Nov. 13	4.00	35.00
XSD Bronze Masterpiece. Apricot bronze.....	Med.	Int. Pomp.	Nov. 15	6.00	50.00

Pompons, Single and Anemone Varieties**BRONZE & RED (Continued)**

Name and Description	Height	Select	Price per		
		Bud	Matures	100	1000
XS Fez. Deep bronze.....	Med.	S. Pomp.	Nov. 15	4.00	35.00
XSP Princeton. Golden yellow suffused with orange	Med.	Int. Dec.	Nov. 15	4.00	35.00
X Mrs. Mary Hooker. Deep red.....	Tall	L. Dec.	Nov. 15	4.00	35.00
XS Red Princeton. Brazil red.....	Med.	Int. Dec.	Nov. 15	4.00	35.00
Gold Imperial. Golden yellow with deep yellow orange center	Tall	Int. Dec.	Nov. 15	8.00	75.00
XSD Bronze Freida. Salmon buff.....	Med.	L. Anem.	Nov. 15	4.00	35.00
X Catherine. Bronze	Med.	Int. Dec.	Nov. 20	4.00	35.00
X Legal Tender. Bronze and gold.....	Med.	Int. Dec.	Nov. 20	4.00	35.00
XPD Red Rolinda. Deep reddish bronze.....	Med.	Int. Anem.	Nov. 23	4.00	35.00
Bronze Goldsmith. Mars orange. Sport from Goldsmith	Med.	Int. Dec.	Nov. 25	15.00	125.00
X Apricot. Apricot yellow.....	Med.	Int. Pomp.	Nov. 25	4.00	35.00
X Yolanda. Pale orange bronze.....	Med.	Int. Anem.	Nov. 25	4.00	35.00
X Dorothy Turner. Bronze.....	Med.	Int. Pomp.	Nov. 25	4.00	35.00
X Glow. Orange. Reddish orange at center.....	Med.	Int. Pomp.	Nov. 30	4.00	35.00
Apricot Valencia. Deep apricot buff. Sport from Dk. Pink Valencia	Med.	L. Sgl.	Nov. 30	8.00	75.00
Red Valencia. Brazil red. Sport from Valencia	Med.	L. Sgl.	Nov. 30	8.00	75.00
XD Jane. Light buff bronze. Sport from Valencia	Med.	L. Sgl.	Nov. 30	4.00	35.00
XPD Carnelia. Red	Short	L. Sgl.	Nov. 30	4.00	35.00
X Royal Crimson. Dark crimson.....	Med.	L. Dec.	Dec. 1	4.00	35.00
X Viking. Deep reddish orange.....	Med.	Int. Sgl.	Dec. 1	4.00	35.00
X Chrome Emerald. Golden orange.....	Short	Int. Anem.	Dec. 1	4.00	35.00
Argo. Orange Bronze	Short	Int. Pomp.	Dec. 5	15.00	125.00
X Cavalcade. Mandarin red. Golden bronze re- verse	Med.	Int. Pomp.	Dec. 10	4.00	35.00
X Sarong. Bright scarlet.....	Med.	Int. Sgl.	Dec. 15	4.00	35.00

PINK

XSP Jewell. Bright rose pink.....	Short	S. Pomp.	Oct. 15	4.00	35.00
XP Dark Pink Jewell. Dark pink. Sport from Jewell	Short	S. Pomp.	Oct. 15	4.00	35.00
XS Pink Pearl. Pink.....	Med.	S. Pomp.	Oct. 20	4.00	35.00
XS Capt. Cook. Pink	Tall	Int. Pomp.	Oct. 20	4.00	35.00
XS Jessie. (Madeline) Deep rose pink.....	Med.	Int. Pomp.	Oct. 25	4.00	35.00
XS Pink Dot. White with pink center.....	Med.	Int. Pomp.	Oct. 25	4.00	35.00
XS October Pink. Medium pink.....	Med.	Int. Sgl.	Oct. 28	4.00	35.00
XSD Lillian Doty. Shell pink.....	Med.	L. Pomp.	Nov. 1	4.00	35.00
XP W. H. Buckingham. Pink.....	Short	Int. Sgl.	Nov. 3	4.00	35.00
XS Mrs. Morgan G. Bulkeley. Light pink.....	Tall	Int. Pomp.	Nov. 8	4.00	35.00
XSPD Thyra. Dark pink.....	Med.	L. Pomp.	Nov. 10	4.00	35.00
XSD Masterpiece. Tourmaline pink.....	Med.	Int. Pomp.	Nov. 15	4.00	35.00
XP Orchid Beauty. Orchid with golden cushion....	Med.	Int. Anem.	Nov. 15	4.00	35.00
XSPD Freida. Light lavender with yellow cushion....	Med.	L. Anem.	Nov. 15	4.00	35.00
XSD Norma. Orchid petals with salmon cushion....	Tall	Int. Anem.	Nov. 18	4.00	35.00
XSD Dark Pink Norma. Deep lavender.....	Tall	Int. Anem.	Nov. 18	4.00	35.00
Minuet. Mauve to rose pink.....	Med.	Int. Pomp.	Nov. 25	15.00	125.00
X Usona. Pink	Med.	Int. Pomp.	Nov. 25	4.00	35.00
X Hasegawa Pink. Lavender.....	Med.	Int. Sgl.	Nov. 25	4.00	35.00
XPD Beautiful Lady. Deep lavender rays with cream cushion	Short	L. Anem.	Nov. 25	4.00	35.00
XD Valencia. Orchid pink.....	Med.	L. Sgl.	Nov. 30	4.00	35.00
XD Dark Pink Valencia. Deep orchid pink.....	Med.	L. Sgl.	Nov. 30	4.00	35.00
Enchantress. Deep pink with light pink cushion	Med.	L. Anem.	Dec. 5	8.00	75.00
X Prosperity. Deep lavender.....	Med.	Int. Dec.	Dec. 10	4.00	35.00
XD Dark Pink Supreme. Lavender.....	Med.	L. Anem.	Dec. 10	4.00	35.00
Carillon. Deep orchid pink	Med.	Int. Sgl.	Dec. 15	8.00	75.00
X Pink Treasure Island. Light lavender.....	Med.	Int. Dec.	Dec. 20	4.00	35.00
X Rosalind. Rose pink.....	Tall	Int. Sgl.	Dec. 20	5.00	45.00

Pot Plant Varieties

PLEASE NOTE SYMBOLS USED FOR THIS CLASS

The varieties listed below include those of all types which have been found most suitable for pot culture. Types are indicated by Sgl.—Single; Anem.—Anemone; Dec.—Decorative; Pomp.—Pompon; Inc.—Incurved. Size of flower is indicated by S—Small; Int.—Intermediate; L.—Large; and L.F.—Large Flower commercial.

X—Extra good or generally accepted best varieties.

S—Indicates varieties we find most suitable for shading.

NOTE CAREFULLY INSTRUCTIONS FOR ORDERING ON PAGE TWO

NO ORDERS FOR LESS THAN 50 CUTTINGS OF A VARIETY ACCEPTED

YELLOW

Name and Description	Height	Select	Matures	Price per	
		Bud		100	1000
XS Gold Lode. Golden yellow.....	L.F. Dec.	Disbud	Oct. 1	4.00	35.00
XS Rodell Improved. Yellow. Sport from Rodell	Int. Pomp.	Spray	Oct. 20	4.00	35.00
XS Blazing Gold. Deep golden yellow.....	L.F. Incurv.	Disbud	Oct. 25	4.00	35.00
XS Golden Glory. Golden yellow.....	L.F. Incurv.	Disbud	Nov. 1	4.00	35.00
XS Nuggets. Best early yellow.....	S. Pomp.	Spray	Nov. 5	4.00	35.00
X Indianapolis Yellow. Lemon yellow. Sport from Indianapolis Pink.....	L.F. Inc.	Disbud	Nov. 8	8.00	75.00
XS Yellow Beauty. Golden yellow.....	L. Pomp.	Disbud	Nov. 10	4.00	35.00
XP Cardonia. Deep golden yellow.....	L.F. Inc.	Disbud	Nov. 10	4.00	35.00
XS Sunray. Yellow	Int. Anem.	Spray	Nov. 15	4.00	35.00
XP Honey Dew. Lemon yellow.....	L.F. Inc.	Disbud	Nov. 15	4.00	35.00
XS Yellow Fellow. Yellow.....	Int. Dec.	Dis. or Spr.	Nov. 15	4.00	35.00
XS Bonnaffon DeLuxe. Golden yellow.....	L.F. Incurv.	Disbud	Nov. 20	4.00	35.00
X Yellow Rolinda. Deep golden yellow.....	Int. Anem.	Dis. or Spr.	Nov. 23	4.00	35.00
X Sun Gold. Yellow	L.F. Dec.	Disbud	Nov. 25	4.00	35.00

WHITE

XS White Jewell. White suffused with pink..	S. Pomp.	Spray	Oct. 15	4.00	35.00
XS Irene. White	S. Pomp.	Spray	Oct. 18	4.00	35.00
XS Minong.	S. Pomp.	Spray	Oct. 20	4.00	35.00
XS Christina. White, sport from Rose Chochard	L.F. Incurv.	Disbud	Oct. 20	4.00	35.00
XS Graceland. White with yellow center.....	Int. Anem.	Dis. or Spr.	Oct. 28	4.00	35.00
XS Indianapolis White.	L.F. Inc.	Disbud	Nov. 8	4.00	35.00
XS Richard Mandel. Pure white.....	L. Pomp.	Disbud	Nov. 10	4.00	35.00
XSPD Little America.	Int. Anem.	Disbud	Nov. 10	4.00	35.00
X Marketeer.	L.F. Incurv.	Disbud	Nov. 18	4.00	35.00
P White Frick. White suffused with pink. Sport from Helen Frick.....	L.F. Inc.	Disbud	Nov. 25	4.00	35.00

BRONZE & RED

XS Glitters. Bright bronze.....	L.F. Dec.	Disbud	Oct. 28	4.00	35.00
XP Apricot Queen. Orange Bronze.....	L.F. Inc.	Disbud	Nov. 1	4.00	35.00
XS Indianapolis Bronze. Buff bronze. Sport from Indianapolis Pink.....	L.F. Inc.	Disbud	Nov. 8	4.00	35.00
XS Red Melba. Red.....	L. Sgl.	Disbud	Nov. 10	4.00	35.00
X Gypsy. Pale reddish bronze.....	S. Anem.	Spray	Nov. 15	4.00	35.00
X Red Rolinda. Red. Sport from Rolinda....	Int. Anem.	Dis. or Spr.	Nov. 23	4.00	35.00

Pot Plant Varieties (Continued)

PINK

	Name and Description	Height	Select Bud	Matures	Price per	100	1000
	Early October. Light lavender.....	L.F. Inc.	Disbud	Oct. 10	12.00	100.00	
XS Jewell.	Bright rose pink.....	S. Pomp.	Spray	Oct. 15	4.00	35.00	
XP Dark Pink Jewell.	Deep lavender. Sport from Jewell	S. Pomp.	Spray	Oct. 15	4.00	35.00	
X Rosabella.	Rose Pink.....	L.F. Inc.	Disbud	Oct. 25	4.00	35.00	
XS Indianapolis Pink.	Deep lavender with pale reverse	L.F. Inc.	Disbud	Nov. 8	4.00	35.00	
XS Thyra.	Dark pink.....	L. Pomp.	Disbud	Nov. 10	4.00	35.00	
XS Queen of Pinks.	(Pink Mandel.) Lav....	L. Pomp.	Disbud	Nov. 10	4.00	35.00	
XP Helen Frick.	Rose Pink.....	L.F. Inc.	Disbud	Nov. 25	4.00	35.00	
XPD Beautiful Lady.	Deep lavender rays with cream white cushion.....	L. Anem.	Disbud	Nov. 25	4.00	35.00	

A Well Grown House of Pot Plant Mums



The variety pictured above is the rather dwarf growing bronze Anemone Gypsy. It blooms naturally for the middle of November, and responds well to shading. Four or five cuttings were planted in these pots early in July. Careful shading and good cultural care brought these plants in bloom in October. See page 16 of this catalog for more information on Pot-Plant Mums.

Some Cultural Suggestions

In its natural state nothing grows more easily than the cool temperature Mum, but when we attempt to make them profitable under today's varying conditions of culture and markets, some rather exact information is necessary. The subject warrants a volume by a practical grower. We will attempt to briefly comment on a few fundamentals.

SOIL The best Mum growth we ever enjoyed was in gravel or soilless culture. We were inclined to attribute this to aeration, that is a factor in this culture. This, we believe, points to the importance of drainage or watering, when ground beds are used. Frequently we meet with weak, rather lifeless growth that clearly indicates lack of healthy active roots. Good root development is not possible in a heavy, soggy soil, so watch drainage. Raised beds are of course safest but good growth in ground beds can be had if they are completely drained and the lower soil examined before each watering. We grow Mums in greenhouse soil that has not been changed for 12 years; but it is steam sterilized annually. Also a barrow of well rotted manure is added to each 100 sq. ft. plus about 8 lbs. 20% acid phosphate. Usually twice during the growing season a top dressing of Vigoro at the rate of 2 lbs. per 100 sq. ft. is added. If watering is properly managed Mums will grow in stiff clayey soil to which organic matter or manure must be added. We have also noted how well Mums will do in gravel, all of which proves that soil management, not its type, is the point that counts.

POMPONS OR MUMS? This is easily answered for a retail grower who must have some of both, plus the anemones and singles. But for the market grower this poses a question that cannot be passed up by saying there is a demand for all classes. Today or at any time we want to know what varieties or classes pay out best. To answer this flatly, we generally find that the time required in disbudding the large classes sometimes leaves the net profit very close. Where the planting is extensive, and unskilled or lower cost help is used for this work, the cost is reduced, but when a skilled man's time must be charged against the crop it becomes quite different. With pompons all this work is cut out, and when growth is unchecked and becomes long stemmed and the choicest varieties are used the gross returns can easily equal that of well grown standards. This will be found particularly true with the present labor situation. As we see it the reason big Mums are not more profitable is due to the general lack of cost accounting among the growers. In other words if growers more generally realized the difference in net returns they would go easier on the disbudded stock which would automatically up their selling price. While it would be a mistake to lay off the big ones entirely, yet this detail of Mum growing is something to consider.



EUROPA. A brilliant Cardinal red single.

PROPAGATE OR BUY CUTTINGS. Since we are interested in selling cuttings you might feel that it is impossible for us to deal with this question impartially. But here are some facts. You will agree that vigorous clean cuttings are necessary to start with. To produce such, the stock plants must be on a well exposed, light bench, from say January to June. In our competitive wholesale market we could get during that period 50 to 60 cents per sq. ft. from such bench space. A retail grower could probably get more. Have you ever figured what it cost in material and time to fight midge on old stock plants all winter and spring and probably have some in the end. Cost accounting is not a matter of *time* to do it; with an interest in it, that is easy to find. We have definitely established the fact that planting out a good rooted cutting makes unmistakably a freer, cleaner growth than an early propagated plant that has been carried along for a month or two. Besides the added cost of such an early propagated, more or less checked plant, consider the reduced cost of labor when rooted cuttings are planted from the propagating bench directly to where they flower. Besides, ordering your cuttings from a specialist, to be delivered any day you say, relieves you of considerable responsibility at a season when every hour counts. But after all, whether to buy or propagate depends on one's individual setup. Generally speaking, propagating Mums is not at all a question of knowing how, but of being able

to compete with the highly equipped specialist. If the management of propagating can be the exclusive responsibility of a good man and the work is done on a fairly large scale, it should be clear that it can be carried out to better advantage than by a grower who needs but a few thousand cuttings. On the other hand, there is a sound reason for the fact that we are receiving an increasing number of 50-100,000 orders from large growers.

WHEN TO PLANT. When grown outdoors or in cloth houses, or in the greenhouse for black cloth shading to flower early, the planting must be done earlier than when grown normally. The reason for this is that shading must start in July or approximately 60 days before they are wanted in flower, and the growth of pompons should be up at least 14-18 in., for after buds are set, stem lengthening is limited. If much shorter than we suggest they will not be long stemmed enuf for top prices. Naturally the big standards should be somewhat taller when shading starts. When used for shading we try to get our planting finished between May 15 and June 1. However, if good cuttings are planted as late as June 10 and they dig right in and grow without a check, we find they will usually get tall enuf for shading by late July. But when early started or pot hardened stock is used, it sometimes fails to make that free, vigorous getaway that is necessary for lengthening stems.

When grown normally, planting should be done in June. When delayed until July as it necessarily is sometimes, the result cannot be so favorable. In fact we do not believe the average net result of such a late planting is profitable, for the margin in Mums at best is fairly close when they must be sold in an open market. The margin can easily disappear entirely if they are second grade. Rather than plant late it might be more profitable to get the beds well prepared for a timely started winter crop, of something else. The beds might even be benefited by a rest of a month or two. It makes little sense to overwork ourselves today on a crop the net result of which is questionable. Where planting cannot be done until July or perhaps early August the young stock is sometimes planted outdoors until the beds are available. This usually works out fairly well with early or mid season pompons grown naturally, but among the later varieties some incline to make blind growth with few flowers when handled this way. If planted out early as it can safely be done, and left out until not later than early July, this plan will work out,



Mum Pot Plant Anemone "Gypsy."

but there is considerable added labor involved in planting out, and later in. On the whole we don't believe it pays.

SPACING. We like to space pompon cuttings 6x6 in., top them once at a height of 8-10 in. and remove the breaks to the three strongest or, perhaps 2 on a few weak plants, and 4 on a few of the strongest. A few further breaks may show up later from about the base and should be removed. With all the plant's energy concentrated in this limited growth it insures stem length and that adds considerable value to bunched stock. As ordinarily grown spaced 7x8, topped several times and no weak growths removed, there is a considerable waste of growth that is blind or partially so, and this frequently results in stems that are not long enough for top grade stock. The new plan is generally used with disbuds and anemones, with perhaps some modification for habit variation in varieties. In producing big Mums there is considerable variation in spacing from around 10x10 in. for exhibition flowers to allowing a half dozen or more flowers to a plant spaced 8x8. To the cost of space occupied by the Exhibition or single stem plants should be added the fact that a varying percentage are damaged in some stage of their development. When spaced 7x8 in. and two flowers grown to a plant this danger of loss is reduced somewhat and this is a popular procedure with commer-



Nice bed of Pink Dot grown in our Aster cloth house. Cuttings planted May 10; shaded July 10 to Aug. 10; photo taken Sept. 20. We consider Pink Dot one of the finest varieties for this early outdoor shaded crop.

cial growers. Some will go further and produce 4-6 flowers with the same spacing or 8x8 in.; and we have seen this carried yet further. In England where the small sizes are far more popular than the large ones, we have noted them grown outdoors during summer by the acre in 10-12 in. pots. These plants are flowered in cold or sash houses, an early and a late crop being flowered in a season in the same house. 18-24 flowers are grown in each pot; with some varieties two and three plants are used in a pot, but generally one only is used. The important point in favor of the small ones is that the number of such that can be grown in the same space in which a large one is produced, are worth more than the large one. But, from the labor point of view we must remember that almost as much time is used disbudding individual flowers of either size.

PINCHING. Only a few inches of growth are ordinarily taken. If taken down to where the growth does not snap easily and clean, the breaks will not be as prompt as in softer wood. We have pointed out the advantage of restricting pompon growth thru the one pinch plan. There might be some further advantage in an additional pinch of the 3 breaks carried up when they reach a height of about 16-18 in. or, for the earlies not later than July 1st. When they reach the suggested height by this date, stem length is assured and a second pinch, we have found, tends to spread and increase the number of flowers open at one time. But it also tends to delay the crop some. If a second pinch is made, limit the breaks from it to not over two. A little experimenting along this line will show up the plan best suited to your demand, varieties and conditions. If the big standards are grown with but one flower to a plant there is of course no pinching, but for

commercial growing not less than two and sometimes three, and up to a half dozen are carried on one plant. Two to a plant is quite popular for one of them usually reaches nearly the size made when the one to a plant plan is used. According to our checks on this the two will average fully 25% more in gross market value than one to a plant in the same space. But this will vary with demand, culture and varieties. Before pinching the plants should be up at least 8-10 in. for at this height they have a strong vigorous start that enables them to break more promptly. Anemones and other disbuds are usually topped at the same height and 2-4 breaks carried up as already noted. Three well grown Anemones or singles to a plant is a popular practice. The demand for such small disbuds of the ordinary kind is rather limited, and when the labor of disbudding is counted against them, they are not left particularly profitable.

WATERING. Under favorable conditions Mum growth is rank and strong and will use lots of water. However, if it is not vigorous or if its color is off, use water rather sparingly until it gets under way again. This is of course just a common sense suggestion that any grower can figure out for himself. However, insects or disease especially at the roots might sometimes be responsible for that "off" appearance and no amount of withholding of water will overcome it. Regardless of its cause, if a plant is not in full vigor it must be watered accordingly, or it will get into trouble. Mum growth does not enjoy temperatures of around 100°. Like such cool temperature subjects as Cinerarias or Calceolarias, active growth is greatly slowed up during the heat of mid-summer. We naturally assume that absorption of water at the roots is decreased under these conditions and that this easily leads to overwatering and decaying of roots. This in turn weakens growth. Every practical grower knows how growth of such subjects wakes up with renewed vigor as Fall temperatures set in. During mid-summer we use overhead spraying quite freely—at least 2-3 times on hot days. By filling the atmosphere with condensation we check the loss of moisture from the leaves thru respiration, thereby checking excessive wilting. If wilting is not checked in this way it becomes responsible for burning, especially the edges of the leaves. In growing Mums in raised beds of 4-5 in. of soil, a great deal more water is of course necessary than when deep beds are used. In fact water is usually the limiting factor in such beds. The fact that raised beds are usually more successful and easily managed than the average ground bed is an example of the importance of drainage that is sometimes lacking in deep beds. To

summarize, the grower must consider the condition not only of his plants and soil, but general conditions as well, before watering.

INSECTS—DISEASE. Midge is undoubtedly the most costly insect with which the Mum grower must contend. It is a product of greenhouse conditions and will disappear when stock is exposed to the outdoors long enough. In England where Mums are more or less hardy and stock plants as well as growing crops are largely exposed to the outdoors, midge is not serious or difficult to control. It can be controlled under glass, but it is difficult to clean out 100% and until this is done it has to be fought continually. The material known as Loro, diluted 1 to 400 without spreader used every 2 or 3 days for a month will clean it out. 1 to 6 or 800 is safer if used when growth is soft as it is during the Spring months. Fumigation with nicotine or cyanide will also control it, but to clean it up this must be used at midnight for a month for they hatch out and spread around that time. Cleaning an infestation is more easily done when in the limited area of the stock plant stage. Next most serious pest is the leaf tier that rolls up the leaf: Arsenate of lead will get them but it discolors the leaves some, and in the later stages of growth this might not disappear before the crop is cut away. We have destroyed this pest in the butterfly stage thru heavy nicotine fumigating that will floor them. But in a few hours they showed signs of life, and it was necessary to turn the hose on them to finish them off. There are numerous materials for cleaning out red spider but the past season growers are complaining of their lack of effectiveness. If this is due to war shortages or substitutions it should be necessary to make it known, but it is possible that lack of thorough or vigorous application might explain the occasional complaints heard. We depend almost entirely on syringing with clear water and maintaining a moist atmosphere thru spraying overhead. We find that when this is carried out regularly, the costly materials recommended for controlling red spider are unnecessary. The Mexican mealy bug as well as midge are examples of how insects can be spread thru getting in infected plants or somebody's "surplus stock" at a low price.

The margin in Mums largely disappears when an unsuccessful fight with insects and disease must be carried on. So the first step is to get stock cleaned up 100%. If it is badly infected with such as midge chances are it will pay well to destroy every vestige of it on hand and buy in cleaned up stock. Usually you can distinguish growers of good clean stock by the price they ask for it.

"TAKING" BUDS. By which is meant selecting the proper bud or doing so at the proper time or date. The suggesting of buds to be taken has been somewhat simplified and made clearer in this catalog by giving the date that it should be taken. However, there are two distinct forms of buds, the earliest to appear usually is a rather large individual one that is

not surrounded by smaller buds as is the later or terminal one. The terminal bud terminates the growth, for this reason it should be taken, when it appears. If removed, the growth will be continued with a lateral or side growth (unless you have rubbed them all out) but there is usually no advantage in doing this for such side growths should immediately produce another set of terminal buds. As a general rule terminal buds are safest, and at the dates given for taking buds of the large flowering varieties, the terminals will usually, but not always appear. In our listing of large flowering kind note the column headed "Select Bud". For the middle states these dates will be found generally safe, but temperature or seasonal conditions may vary the setting of buds. Higher or more prolonged temperature in the south usually causes later setting, which will mean that buds may not be formed when the date given arrives. In this case you should be quite safe in selecting the first bud that appears.



Apricot Queen, two to a plant, with Albatross on the right grown in a Flexo Glass house photoed October 7th, started shading July 30th.

SHADING FOR EARLY FLOWERING. Mums belong to what is known as "Short day plants," by which is meant they set buds as the fall days shorten. They would not do so if summer or long days are prolonged. Conversely Mum buds will set if days are shortened artificially during mid-summer. Taking advantage of this has not only lengthened their season, but has added greatly to the value of the middle states crop. The requirement simply calls for exposing the plants to complete shade from about 5 o'clock in the evening until 7 the following morning. The strength or penetration of daylight is so strong that it is practically impossible to attain total darkness, with black cloth or even the opaque paper sometimes used, and neither is complete darkness necessary, but if real light streams in thru even a small opening the plants exposed to it will not get an early

set. Watch this closely. Varieties that flower normally in October are regularly flowered early in Sept. for which shading should start 60 days earlier or July 1st. Later varieties will require a somewhat longer period from start to finish. With large Mums shade should be maintained until buds are enlarged to the point of showing some color. Pompoms require more time because the lateral or side flowers develop later than the center or terminal flowers. Early planting of shaded stock is necessary because stem length doesn't greatly increase after buds are set. We like to have our pompoms 14-18 and the large ones 18-24 in. in height at the time shading starts. Under most conditions this means that planting should be completed June 1st.

Varieties differ some in their reaction to shading. Generally strongly colored varieties should be used because of the fading tendency of some colors when flowered during prolonged high temperatures. The large variety Apricot Queen, a rich shade of buff or apricot yellow when flowered naturally in late October is an example of this, for when flowered in the heat of September thru shading it becomes a rich golden Yellow—an entirely different variety in color. Most of the whites are excellent when shaded, but the pinks tone down considerably tho not to an objectionable shade. But only the deepest pinks should be used. The varieties we particularly recommend for shading are so designated with the letter S. in our listing.

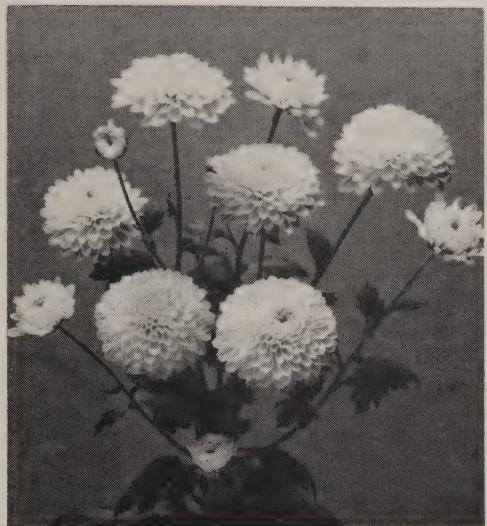
TO DELAY FLOWERING. Heavy over supplies frequently develop late in November or when the finest varieties are on. When the flowering of such can be delayed several weeks the difference in returns usually is substantial. Planting may be delayed 2-3 weeks with stock to be shaded. The procedure in delaying bud setting or flowering is the reverse of shading for early flowering, for daylight hours must be extended with electric lights. 40 Watt lamps are recommended for this purpose. They should be suspended over the bench at intervals of 5 ft. and equipped with tin reflectors, that can be in the form of dime store pie plates. 3 to 10 foot candles are generally recommended. Use only late varieties and start lighting about Aug. 15th. Turn lights on after dark, maintaining them for 3 hours every evening. The length of treatment should be $\frac{3}{4}$ as many nights as you wish to delay flowering. In other words if you wish a 30 day delay in flowering turn on lights for 22 days. There is considerable difference in the inherent behavior of varieties. This as well as seasonal uncertainties will make for varying results in this delaying procedure, as well as in early flowering, and as every grower knows this



House of Silver Sheen. Bench first week in May. Shaded beginning July 15th. This photo taken about Sept. 10th.

applies to flowering naturally as well. In the main, shading can, according to our rather limited experience with it, be depended upon. Buds will develop promptly after lights are shut off and the first good bud that appears should be accepted. A minimum of 50° temperature with 5-10 higher during the day should be maintained for if it gets very much lower there will be a blind growth tendency.

AS POT PLANTS. A good many more Mums would be sold in this form if more timely attention were paid to getting them compact. The leggy, poor stemmed specimens all too frequently noted appeal to no one. Also some years back there was a tendency to believe that only small flowered types should be used as pot plants. Today most buyers are primarily attracted to size of flowers as well as habit of growth. However, our pompon and anemone list recommends many varieties as suitable for disbuds in pot plant form. The Anemone and large Singles are especially attractive for this purpose. In growing Mum pot plants a real labor saving suggestion is, planting 3 to 5 cuttings directly into a 5-6 in. pot. This is standard practice with many, so don't be afraid of it. There is little danger of over watering in June or July when the planting is done. Three pinches are usually required for the June planting. First one is made 2-3 weeks after planting. A few weeks later another one and the last one, for the late varieties in August. To get that attractive size into the flowers they must of course be disbudded timely and if a \$35 or \$40.00 a week grower must do this work, the margin will be close. The most successful



GOLDEN SURPRISE

growers of Pot Mums expose their plants to the outdoors at least for part of the summer. Some grow them in outdoor frames thruout mid-summer but a cleaner finished plant is had by sheltering them indoors soon as the hottest part of the season is past. Reason for at least some outdoor exposure is, it's more dwarf growth effect. This is particularly true if the house is not a light, unshaded one as it should be for all Mum growth. After pot plants get well into growth and become pot bound, they should

stand some feeding with liquid manure that has a fair proportion of nitrogen in it. In fact Mum growth is strong enuf to stand good live soil to start with. While they must be watered with some care after potting into large pots direct, as they get into the pot bound stage, water is something of a limiting factor especially when exposed to outdoor conditions.

HARDY MUMS. Some varieties listed as such will frequently prove disappointing under our climatic conditions. North of us where snow protection is much more dependable, and in the near south where temperature changes are not so sudden and severe, the varieties listed as hardy are more dependable. That also seems true of the Eastern States especially where climatic conditions are tempered by the ocean. However, the importance of drainage should be emphasized. Also, a properly nourished vigorous growth has a better chance of surviving a rigorous winter than a semi-starved plant has. But of most importance where changes are sudden and extreme is a covering of coarse material deep enough to prevent much alternate thawing and freezing. Also Hardy Mums might be winter killed for the very obvious reason that there are no eyes under ground from which runners can carry on the following year. So in planting out see to it that they are down deep enuf to cover some eyes. This in turn means that cuttings of hardy varieties should be short jointed with plenty of eyes at the base. We regret that because of present conditions we find it impossible to supply the hardy section this season.



Picturing our newly worked out method of packing our Mum cuttings. Packing is done at the propagating bench. Each row across the bench is a unit of 25 cuttings. These units are taken from the row and without wrapping are placed in the compartments noted in the pictured box and where they rest on damp moss. This method assures the least possible exposure of roots and avoids the close tight packing that is ordinarily used.

Carnation Culture

(*Dianthus coryophyllus*)
A Grower's Digest, by John Bonhard

In response to repeated inquiries about Carnation culture and other Carnation problems, we have jotted down an outline in brief of our methods of Carnation culture. Though each grower has his own little shortcuts in producing a crop, most good growers follow the same basic principles. This, then, is an outline of our basic procedure.

I. SELECTION

the basis of all good Carnation growing. Select for vigorous growth, flower quality and production, disease resistance, and sturdiness.

II. PROPAGATION

A Time, December to April, the earlier the better.

B Kind of Cuttings. Heel or top cutting, both O.K. if taken not too soft or too hard.

1 Heel Cutting grows from the leaf axil of a flowering stem.

2 Top Cutting is an overgrown heel cutting and should be cut or broken to desired length at a node.

C Avoid cuttings from the upper part of the flowering stem. This would produce weak plants.

D Rooting is the infancy phase of plant's life—so proceed with watchful caution. Use clean sand, clean cuttings well trimmed. (Cut at a joint—Carnations root only at a joint). Avoid drafts and keep sand moist, not wet. Bottom heat hastens rotting but is not essential. With bottom heat of 60 to 65 degrees, using a rooting compound, roots will form in about 15 days. Protect cuttings from direct sun, but do not obstruct good ventilation. Remove from sand when roots are $\frac{1}{2}$ " to $\frac{3}{4}$ " long.

III. CARE from the sand to the field or bench if summered indoors.

A First Planting

1 The first soil should not be high in nitrogen but should be loamy with humus—as a good compost soil. Use only clean fresh soil or sterilized old soil.

2 Containers may be $2\frac{1}{4}$ " to $2\frac{1}{2}$ " pots, flats or wooden bands. Best results by far with $2\frac{1}{2}$ " wooden spruce bands. The bands give best results because of more soil content, ease of handling in transplanting, and a saving of roots when benching.

B First Topping

1 When the cutting has made 6 to 7 sets of leaves.

2 Where—just above the third set of leaves in most cases. This may seem severe but will give stockier plants later.

C First Feed

1 Time—shortly after the first topping while it is easy to apply.

2 Amount—approximately 2 lbs. to 100 sq. ft. of Vigoro or its equivalent.

D Watering cuttings, after planting in the soil—should be thorough the first time, then on the dry side for two weeks, followed then by keeping them evenly moist (not soggy), for best growth.

E Second Feeding—at the same rate as the first. Should be applied about six weeks after the first feeding.

F Second Topping—will be staggered. As the tallest shoots stretch up, top them about like the first stem.

G Spraying with lime-sulphur and Bordeaux is important as a preventative.

1 Time to spray—first spray should be shortly after the first topping and subsequent sprays every two weeks.

2 Kind to use—Lime-sulphur (1 oz. of dry lime-sulphur to 1 gal. of water) or Bordeaux (4-4-50). Alternate the sprays, first one and then the other. The sulphur controls rust and spider better than the Bordeaux, which in turn is a better preventative for rots.

IV.

SUMMER CARE

A Type of summer care will depend on the section of the country, amount of disease present, and the inclination of the grower.

1 Indoor summer culture may give favorable results if the plants are well developed at benching time (usually early May). Early propagation is a *must* in this method of growing.

2 Field culture gives best results for most mid-West conditions. Plants should be planted in a clean field which has had no Carnations for at least three years, and they should be planted out as early as the weather will permit. Carnations will take light frosts.

B Cultivation is important in both cases to loosen the soil for moisture control and to keep down weeds which harbor insects, and in the field cut down air circulation around the plant, which invites fungus growth.

C Feeding should be light. In the indoor method the soil may become depleted more quickly. Apply 4 lbs. of superphosphate 48% at benching and top dress with 4 lbs. (per 100 sq. ft.) of Vigoro or its equivalent in June or early July. The plants in the field seldom need a feed if the soil was prepared properly.

D Topping in summers should be a con-

CARNATION CULTURE (Continued)

tinuous operation so that the winter cut will also be staggered—always removing only one or two of the tallest stems at a time. For normal seasonal flowers, topping of red and maroon varieties should cease by mid-August. Whites and pinks can be topped till September 1st or later for a few short stemmed varieties such as Virginia and Olivette.

E Spraying in summer will depend upon the conditions at hand.

1 No spraying in the field is necessary in most cases unless spiders appear. They are best controlled here with C.N. 10 sulphur dust.

2 Indoors the plants will be more subject to spider and rots. Bordeaux and lime-sulphur sprays should continue as during the cutting stage. Some syringing may be used, but it is not the best practice.

F Watering in summer

1 Some system of watering should be provided in the field for frost protection and for prolonged dry spells. Carnations don't want too much water in the field but should not be stunted by lack of it. Digging the plants at benching time is simplified if they can be watered shortly before.

2 Indoor plantings should be watered thoroughly whenever the soil begins to dry below the surface. Avoid syringing as much as possible. It invites rot and rust.

V. LATE SUMMER TO SPRING CARE

A The two types of summer culture will determine the late summer procedure.

1 Field grown plants are usually lifted in mid-July, benched in fresh or sterilized soil and run on the dry side for a week or two. A mud shade should be used when benching.

Take it off in about 10 days. Carnations want light.

2 Indoor grown plants will be well established by September 1st, and usually will have longer stems earlier than the field plants.

B Fall feeding

1 The indoor plants will need another feeding about mid-August to early September. This should be determined by a soil test. Keep the nitrates above 15 parts per million, but not over 40. Another top dressing of Vigoro will be needed by mid-October, and about 2 lbs. of potassium sulphate (48%) (Potash) November 15th.

2 Field plants should be benched in a low nitrate soil (10-15 parts per million) which has a liberal share of humus (decayed manure or vegetation, and which has 4 lbs. of (49%) superphosphate well incorporated in it. The next top dressing may be 4 lbs. of Vigoro or its equivalent

per 100 sq. ft. about late September. By the first of November another application of Vigoro can be made at the rate of 2 lbs. per 100 sq. ft. Two pounds of potash (potassium sulphate 48%) will be beneficial if applied in late November.

3 No feed needed between late November and mid-February.

C Supporting—any method is good if it keeps the stems straight and allows for the maximum circulation of air.

1 Most common method is stringing No. 16 wire down the bench between rows and tying line strings between each two rows. Three sets of wires are most common, but we get best results with four, setting the first one about five inches above the soil to hold the plant upright early in its growth.

2 Keep ahead of the growth with your supports. It is easier to train plants into wires already placed.

D Watering

1 Amount will depend on weather conditions, but the soil *feel* is your best indicator. Do not let it dry out and do not let it remain saturated for long. Water thoroughly and not so frequently.

2 How to water. Keep it off the foliage. Water from both sides of the bench with an open end hose. Water in the morning on bright days if possible.

E Spraying, Dusting, and Fumigating

1 Fumigation with liquid Fulex is the best control for spider and thrip if other crops are not in the same house with Carnations.

2 Dusting with DN 12 sulphur dust controls spider but leaves a residue.

3 Lorro or Lethane most used sprays for thrip and spider. Sprays for disease control seldom needed in winter if ventilation is right.

F Temperatures

1 52 degrees nights is most suitable temperature but good results can be had at 48 degrees. Temperatures of 40 nights are not profitable normally because production is reduced too greatly.

G Ventilation is important for several reasons

1 It dries the plant surfaces and cuts down the viability of disease spores which may be present.

2 It dries the soil more quickly during cloudy weather, allowing for better soil aeration.

3 It tones up the plant by supplying more oxygen and sweeping away the waste gases.

H Cutting Flowers

1 When to cut will vary with the season and variety, but as a general rule the

CARNATION CULTURE (Continued)

flowers should be only about two-thirds open. The flower will last much longer and ship to market better when cut at this stage.

2 Before shipping the flowers should stand in fresh water for at least six hours so as to hold up during shipping.

3 Bunching in a round bunch of 25 is most common, but the most attractive and efficient method is the flat pack method, using a cardboard folder.

VI. SPRING CARE

A Feeding—a program of top dressing should start about mid-February and proceed until six weeks before dumping. Apply 4 lbs. of Vigoro or its equivalent every six weeks.

B Watering can be stepped up as the weather warms, but keep it off the foliage.

Spot watering may be necessary during hot periods.

C Shading—don't shade Carnations except at benching time. They like sun.

VII. SECOND YEAR CARNATIONS

This practice works rather well, but in most cases doesn't give quite the quality that new plants do. For best results, start topping back the old plants in late March by cutting out all stems that haven't set bud. As the flowering stems are cut out, the plant will eventually be all headed back. It should then be treated as an indoor summer grown plant would be treated, feeding, topping, spraying and watering just as for a young plant. Remember to gradually cut down on the watering as the plant is headed back. Spraying is doubly important because of the carry-over of the past season's spores.

Ball Bands for Better Carnations

Plan now to plant this year's Carnation cuttings direct from the sand to 2½" Ball Better Plant Bands.



Just from the field in a 2½ in. plant band.

Notice the firm ball of soil on the above plant which has just been dug from the field, yet the plant is plainly not root-bound. This band of soil insures a quick start in the bench and a definite lowering of loss from root and stem rot. These are only a few of the many advantages offered by Ball Better Bands. Send for circular showing the full line of Bands with prices.

Our 1944 Carnation List

Instructions for Ordering

Orders for less than 50 of a kind of carnation cuttings can not be taken.

Our terms are net 60 days to persons of approved credit standing.

There are no quantity or cash discounts on carnation cuttings.

On our per 1000 cutting price we will furnish 250 at the 1000 rate.

On our per 100 cutting price we will furnish 50 at the 100 rate except where noted.

To get the 1000 rate—250 or more cuttings must be ordered of each variety wanted. —We can not furnish ten lots of 100 each at the 1000 rate.

Carnations are always shipped express collect. This we believe is the safest method of transportation. Remember the Express company is responsible for the safe arrival of your cuttings.

All our packages of Mums and Carnations have this label

This box was inspected and accepted by the Express Company for shipment. Therefore, if there is any damage enroute, from being broken or frozen, call your express agent to inspect the same, marking on express receipt the condition of the package and amount of damage, etc., then you file claim, as our responsibility ceases when carrier accepts shipment.

The Standard and Popular New Carnation Varieties for 1944

WHITE VARIETIES

	Price per	100	1000
Arundel. A promising new white seedling of vigorous healthy growth.....	\$15.00	\$125.00	
General Patton. Fragrant new pure white seedling with long, strong stems and a good calyx. Has been well received in the eastern markets. Not patented	15.00	125.00	
Patrician. A well-known large flowering white. Flowers are fragrant and freely produced—occasionally are flecked with red.....	8.50	75.00	
Olivette. One of the better whites! It is noted for steady winter production, symmetrical and spicy flowers, and sturdy medium length stems. Production is heavy and splitting is less than other standard whites.....	8.50	75.00	
White Peter Fisher. White sport of Peter Fisher, having the same characteristics as its parent except for color. A creamy white flower on long stems which are freely produced.....	8.50	75.00	
White Maytime. Similar to Pink Maytime from which it sported. Vigorous grower and profitable variety.....	8.50	75.00	
Puritan. Very prolific white on lengthy stems. Flowers are average to large size with moderate splitting. Best grown in a cool house.....	8.50	75.00	
Peace. A new white similar to Patrician which has been well liked in some areas	12.00	100.00	

LIGHT PINK

Hercules Virginia. Giant light pink sport of Virginia, having the growing qualities of its parent.....	15.00	125.00
Blush Fisher. Flesh pink sport of the well known Pink Peter Fisher. Qualities, except for color similar to the parent.....	12.00	100.00
Maytime. A rich shell pink flower with well filled center, and an attractive profile. A prolific producer of stiff long stems.....	8.50	75.00
Virginia. Widely planted as a quality light pink Carnation, noted for its steady winter production, lack of splitting and its clean stems which require very little disbudding. Average length stems, bearing well held, long lasting flowers.....	8.50	75.00

SALMON PINK

Charm (Patented). A really quality salmon-pink which is unique because it combines quality with productiveness and profit. The stems are exceptionally long and sturdy, the flowers large, and the calyx is strong. Grows well in the field or indoors.....	20.00	150.00
Giant Laddie. Spotted from Laddie, it has deep salmon-pink flowers of larger size than the parent. An exceptional flower for the discriminating market, where quality not quantity is in demand.....	12.00	100.00
Pollyanna (Patented). One of the better new soft-pink Carnations, well liked for its productiveness. It is a steady winter producer of average length—sturdy stems, and well filled medium to large size blooms. A good keeper	15.00	125.00

MEDIUM PINK

Derigo. A medium dark pink similar to My Love in color and size, deeper in color than Dark Pink Maytime. The production of long firm stems, is above average and the flowers are characteristically adapted for good shipping and keeping	8.50	75.00
Dorothy Napier (Patented). The originator describes it as a bright medium pink, nearly cerise. The flowers are large and very full, and the calyx does not split. It is easily propagated and makes good plants during the Summer in the field or under glass. Production compares favorably with all varieties of this color and quality.....	20.00	150.00
Giant Fisher. Another sport of Peter Fisher which will be welcomed by admirers of the parent, because it adds size to the other good qualities of the Fisher family	12.00	100.00
Peter Fisher. Well known for its profitable productiveness and clear fringed-pink flowers. Stems are long and of good strength and calyx is strong. Well liked by many!	8.50	75.00
Pink Treasurer (Patented). A medium or rose pink flower of large size and full appearance. It somewhat resembles Patrician in form and substance, but has longer stems and a more sturdy calyx.....	20.00	150.00
Rosalie (Patented). A very excellent Carnation when well grown. The flowers are medium to large similar in color to the old Ward and are good keepers. The plants are clean growers and easily propagated. Stems and production above average.....	20.00	150.00
Rose Caress. A new medium pink seedling which shows promise. A pleasing color	15.00	125.00
Virginia Rose or Dark Pink Virginia. Well liked wherever Virginia is popular. It is much deeper in color than its parent, but lighter in color than Ward. Very uniform in production and quality an excellent keeper.....	8.50	75.00

DARK PINK

Dark Pink Fisher. Similar to Peter Fisher from which it sported. Color is a good dark pink and does not fade in Spring.....	12.00	100.00
John Briry. One of the brightest dark pink Carnations now grown. It is a first quality flower but not a heavy producer. Does best for Spring flowers..	8.50	75.00
Dark Pink Maytime. A deep pink sport of Maytime, having the same characteristics as the parent variety.....	8.50	75.00
New Deal Ward. A selected and improved Boston Ward. The color is slightly deeper and the plants more vigorous than the Boston Ward.....	8.50	75.00

RED

Barbara Farr. A scarlet sport of Spectrum Supreme, a shade lighter in color than the parent. Production is heavy and flowers are well carried on good stems. Splits some	8.50	75.00
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RED (Continued)

Fire Chief (Patented). Having sported from King Cardinal it is similar except for a greater number of petals and slightly darker color. Vigorous grower with strong stems and slight splitting.....	20.00	150.00
King Cardinal (Patented). A consistently good variety with a production record that is as glowing as its flower is appealing. A profitable producer which is easily propagated and rarely splits.....	12.00	100.00
Spectrum Supreme . An old favorite which continues to hold its own in some areas. The plant grows vigorously with many breaks, producing deep scarlet flowers of above average size; it tends to split some.....	8.50	75.00
Tom Knipe . Described by the originator as an outstanding new scarlet variety from the originator of Chief Kokomo and Seth Parker. The flower is very full and large with serrated petals. The calyx does not split. It propagates easily, produces well and grows well out in the field or under glass during the Summer.....	20.00	150.00

CRIMSON

Seth Parker (Patented). One of the better varieties of recent years; it is a rich bright crimson which takes on added beauty under artificial light. The flowers are larger than other varieties in this class, stems excellent, splitting unknown. Production is fair and more flowers can be harvested for the Christmas season than was ever possible with the older varieties....	20.00	150.00
Joyce . Not as dark a crimson as Woburn but darker than Seth Parker. It is more productive than Woburn but splits more than Seth Parker. The stems are good and flowers medium large.....	8.50	75.00
Woburn . Still widely grown and well liked in some areas. Its color is deep crimson and if well grown they attain moderately large size. Strong stems and calyx and good keeping qualities.....	8.50	75.00

MISCELLANEOUS

Yellow Gold (Patented 1938). A clear yellow much desired for retail work. Flower size and quality good, stems somewhat weak, splits slightly.....	12.00	100.00
Lenore . One of the older white and pink novelties; the background is white embellished with delicate pink pencil markings. The flowers are average size and produce profitably abundant.....	8.50	75.00
Pelargonium . One of the more widely grown English varieties which holds its popularity because it continues to be attractive and profitable. The color is a notted effect of crimson-wine on a white base; the blooms are large and the stems average length with strength to carry the flowers gracefully..	12.00	100.00
Scarlet King . A sport of Pelargonium with more vigor and brighter lighter coloring. It is a novelty which is gaining in popularity each year.....	12.00	100.00
Marchioness of Headfort . Another English variety of the Pelargonium type equally as pleasing with a fuller flower which causes some splitting. Stems are good, production average.....	12.00	100.00
Lochinvar . An attractive novelty of the Pelargonium type flower with a rich velvet sheen. Production of average size flowers is good for this group.....	8.50	75.00
Barbara Brigham . A sport of Golden Wonder having its parent's qualities, but with a very pleasing orange-apricot coloring which is penciled with pink....	8.50	75.00
Golden Wonder . One of the best of the yellow variegated varieties; it produces large well filled blooms on medium length stems. Flowers split some but it makes an excellent retail novelty.....	8.50	75.00
Maine Sunshine . A good clear sulfur-yellow which is so popular in the retail trade, but seldom offered. Production is good and the flowers keep well. Splitting is a minor fault.....	8.50	75.00

NO ORDERS FOR LESS THAN 50 CUTTINGS OF A VARIETY ACCEPTED

All Plants and Bulbs will be Scarce in 1944—Order Early

The average grower does not need to be told that many kinds and varieties of plants and bulbs for greenhouse growing have been extremely hard to secure this past season.

Every day sees more and more of our greenhouse workers being called into the armed forces or into more essential employment. If we are able to secure any additional help, it is often inexperienced and not able to turn out the quantity nor quality of plant material that the trade needs.

We have secured the co-operation of some of the best plant propagators and bulb growers in America. We believe we can take care of your needs for the coming twelve months, provided we have your orders at least six to ten months in advance.

Do not ask us to send you a general price list of all plants or bulbs. Prices change quickly; supplies of plants and bulbs also change from week to week. If you will send us an order for the quantity, size, variety of items you require, etc. we will advise you promptly if we can secure it for you.

Listed below are some of the items we will have in quantity for next season.

AMERICAN GROWN BULBS

From the best growers in the bulb-producing sections of the United States come Lilies, Daffodils, Iris, Tulips, Callas, Amaryllis, Caladium, Tuberous Rooted Begonias, Gloxinias, Ranunculus, Freesia and Gladiola.

We can deliver these bulbs in season. Place orders early for next year's supply; many varieties will be scarce.



AZALEAS—Spring delivery of growing on stock, Fall delivery of dormant plants.

BEGONIAS—(Melior types) May and June delivery, extra high quality of 2 1/4" plants.

Plants for 1944 Delivery



POINSETTIAS

POINSETTIAS—Spring delivery stock plants, Summer delivery of 2½" s.

HYDRANGEAS—Spring delivery of young stock, Fall delivery of dormant plants.

GERANIUMS—Delivery, out of 2½" s only.

ROSES—Dormant Started eyes for cut flowers, Dormant plants for Spring pot plants. Summer and Fall.

WHITE QUEEN LILIES

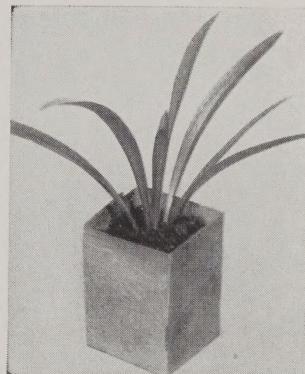
Grown in 1¾ inch Ball Better Bands. Packed in units of 100 plants. No orders for a lesser amount accepted. Delivery each month from Jan. on. These plants will be 7 to 8 months old when shipped. Order a supply to be delivered each month. Have a succession of blooms throughout the year.

PRICES

1 case—100 Plants—White Queen Lilies in 1¾" bands
@ \$12.00.

3 cases or more in one shipment @ \$100.00 per 1000 plants.

Growing instructions with each order.



Typical White Queen Lily grown in a Ball Better Band.

"CARNATION PACK"

Today when flowers, time, and material are in greater demand than ever before, every effort must be made to deliver all we have in the most efficient way we can. The Carnation Pack will help you do just that—deliver all Carnations in the most efficient way. Being a flat pack it fits more closely with less crushing and breaking while in transit. The Pack, which folds around the stems, protects that vulnerable area of the stem just below the flower head, prevents sagging, and lowers the time required in packing for shipment. Descriptive circular sent upon request.

PRICES

1 Thousand.....	\$15.00 per M.
5 Thousand.....	13.75 per M.
10 Thousand.....	12.75 per M.
50 Thousand.....	11.75 per M.

(For larger amounts write us)

(Above prices F.O.B. Casterland, N. Y.)

Plant Department

GEO. J. BALL, Inc., WEST CHICAGO, ILL.



John Bonhard, our Carnation Grower

The above picture is a close-up of John in the midst of his work, with a few sample specimens of the variety Charm. Many of our customers, and more especially readers of our monthly **GROWER TALKS**, are familiar with his interesting articles on Carnations that he writes from time to time. His short, streamlined directions on how he grows Carnations here at West Chicago, under mid-western conditions, we believe will prove interesting and instructive not only to the growers with limited experience, but to the old timers as well. Turn to page 18 and read it yourself.

Like everyone else in our organization, John is ready to do his share in helping out in our various departments that are undermanned because so many of our boys are now members of our armed forces. John is now devoting considerable time in our plant department and will be glad to answer any of your questions on Carnation culture and other greenhouse problems. As a graduate of Floriculture from the University of Illinois, his 5 years of practical growing experience, and his ability to put his ideas in writing makes his answer to your particular questions of considerable value to you. Do not hesitate to write him at any time.

Grosg. Ball
INC.
WEST CHICAGO,
ILLINOIS, U. S. A.